Remarks:

The Applicants present herein a new title for the instant application which the Applicants believe more clearly describes the invention.

In a first office action correspondence mailed December 23, 2002, the Examiner indicated claims 2-5, 7, and 13 were allowable, however, the Examiner reconsidered this allowance along with all pending claims in a second office action mailed June 5, 2003. Currently claims 1, 6, 8, 10-12, and 33-35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,322,567 to Mittelstadt *et al.* (hereinafter "Mittelstadt"); claims 2 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mittelstadt; and claims 3-5 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mittelstadt in view of U.S. Patent No. 5,814,038 to Jensen *et al.* (hereinafter "Jensen").

Independent claims 1, 13, and 46 (reinstated - formerly claim 36) have been amended to further clarify the structure of the attachment member and thus the nature of the attachment between the robot and bone as clearly described in the instant specification. Considering the current amendment for clarity and the following remarks distinctly pointing out the differences between the prior art and the present invention, the application is now in condition for allowance and early allowance is solicited.

According to the most recent rejection, the Examiner has alleged that Mittelstadt discloses a device having all the limitations of the pending claims. However, the Examiner has apparently misunderstood fundamental aspects of the present invention and the structure as claimed.

The prior art surgical robots cited by the Examiner in this, the second, as well as the first, office action disclose surgical robots that are structurally supported by either the floor of the operating room, an operating table, or some other support structure spaced from the patient. The surgical robot disclosed in Mittelstadt is such a large instrument, configured to be transported into and from the operating room or moved within the operating room on a form of a cart with casters. (*See* FIG. 1). In use, the surgical robot is placed adjacent an operating table such that a bone of a patient requiring surgery is brought within the workspace of the robotic arms of the robot. The robot includes a fixed base, which is the frame of the robotic workstation. (*See* Column 6:Lines 62-63). The robot is solidly affixed

to the fixed base frame of the robotic workstation (*See* Mittelstadt Column 6:Lines 60-63) and a bone movement tracking arm or passive mechanical arm is also affixed to the frame of the robotic workstation. (*See* Mittelstadt Column 4:Lines 18-20, Column 6:Lines 63-65, Column 7:Lines 5-10, and Figures 1-4).

The Examiner alleges that the attachment member or fixator (70) of the Mittelstadt disclosure anticipates the attachment member of the present invention. (*See* Office Action mailed June 5, 2003, pg. 2). The surgical robot of Mittelstadt discloses two different structures that attach to the bone, a fixator (70) and a passive mechanical arm (40), neither of which anticipate the attachment member of the present invention. The fixator (70) of the Mittelstadt disclosure is "adapted to hold the bone... in a substantially fixed position during surgery." (*See* Mittelstadt, Column 7:Lines 60-62). Mittelstadt also discloses the fixator as being provided to "hold the bone as stationary as possible during... [a] procedure." (Column 7:Lines 5-7). Whereas the passive mechanical arm (40) is "preferably articulated, comprises a plurality of links (42) connected together at joints (41)... [and] has a distal end (47) which is freely movable." (*See* Column 8:Lines 1-6 and Figures 1-3). Furthermore, the distal end of passive mechanical arm (40) is capable of moving with respect to the proximal end, to various locations in any of 6 degrees of freedom. (*See* Column 8:Lines 10-14).

In contrast, the attachment member of the present invention is configured and dimensioned to be mounted on a bone on a distal end and receive a surgical robot on a proximal end. (*See*, for example, Figures 2 and 8, and paragraphs 11, 23, 28, and 31 of the instant application). The attachment member of the present invention does not restrain the bone in a "substantially fixed position" or "as stationary as possible" as disclosed by the fixator of Mittelstadt. In fact, bone motion during a surgical procedure utilizing the present invention is irrelevant because the entire surgical robot of the present invention is mounted on the bone, and therefore, the entire robot moves with the bone - eliminating the need for the bone tracking arm that is critical to Mittelstadt. (*See*, for example, Figures 2 and 8, and paragraphs 11, 23, 28, and 31 of the instant application). Accordingly, neither the fixator (70) or the passive mechanical arm (40) of Mittelstadt anticipates the attachment member of the present invention.

As the independent claims have been amended to clarify, the attachment member of the present invention is mounted on the bone and configured to receive the surgical robot of the present invention. In doing so, the attachment member of the present invention supports the entire surgical robot of the present invention on the bone. (*See*, for

example Figures 2 and 8). Consistent with this arrangement, the surgical robot of the present invention is miniature in comparison to the surgical robots of the prior art such that the bone of a patient can physically support the weight of the attachment member combined with the surgical robot.

Moreover, the surgical robots of the prior art cited by the Examiner are affixed to a base, separate from the bone of the patient. (*See* Mittelstadt, Column 7:Lines 63-64). As a result, relative motion develops between the robot and the bone in the prior art devices. (See Mittelstadt, Column 1:Lines 66-67, Column 2:Lines 1-6, Column 4:Lines 45-49, Column 6:Lines 29-32, Column 6:Lines 66-67). This motion must be monitored and the surgical robot must adjust to accommodate the motion to remain in surgical alignment. (*See* Mittelstadt, Column 10:Lines 10-27). In contrast, because the robot of the present invention is mounted on the attachment member which is mounted on the bone of the patient there is no relative motion between the robot and the bone of the present invention. The robot of the present invention moves with the bone. In fact, hypothetically speaking, if the patient were to rise from the operating table and walk out of the operating room, the robot of the present invention would remain mounted on the bone and remain in alignment with the surgical site.

Accordingly, it is respectfully requested that the rejection of the claims be withdrawn and the claims allowed.

Respectfully submitted,

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